CLAIMS

1. A transmission having two revolving transmission elements, each of which has at least one running surface for a revolving coupling element, at least one running surface having at least two running paths for the coupling element having different running radii and the two transmission elements being braced, with the coupling element incorporated, via a bracing device which presses the two transmission elements against the coupling element with a variable pressure, characterized in that the bracing device comprises a pressure device (8), which presses the running surface (12) of a first of the two transmission elements (4, 5) against the coupling element (7) with a variable pressure and, in addition, is supported on a bracing bearing (9), and a spring element (13, 14) which is positioned to act in series with the pressure device.

2. A transmission having two revolving transmission elements, each of which has at least one running surface for a revolving coupling element, at least one running surface having at least two running paths for the coupling element having different running radii and the two transmission elements being braced, with the coupling element incorporated, via a bracing device which presses the two transmission elements against the coupling element with a variable pressure, characterized in that the bracing device comprises a spring element (13) which transmits both the variable pressure and a torque between the running surface (12) of the first transmission element (4) and the bracing device and/or between the running surface (12) of the first transmission element and the pressure device (8).

3. A transmission having two revolving transmission elements, each of which has at least one running surface for a revolving coupling element, at least one running surface having at least two running paths for the coupling element having different running radii and the two transmission elements being braced, with the coupling element incorporated, via a bracing device which presses the two transmission elements against the coupling element with a variable pressure, characterized in that the bracing device comprises a pressure device (8) having two pressure elements (15, 16) and at least one rolling element (17), which rolls on a rolling element path as a function of torque, which is implemented in such a way that a first pressure element (15) is displaced in relation to the second pressure element (16) in the direction of the pressure when the rolling element (17) changes its position on the rolling element path as a function of torque.

4. The transmission according to one of Claims 1 through 3,

characterized in that a torque sensor is provided on the drive side and/or output side and the pressure of the pressure device (8) is selected as a function of the torque determined.

5. The transmission according to one of Claims 1 through 4,

characterized in that a pressure caused by a torque and/or a displacement of components (4, 11, 13, 14, 15, 16) of the pressure device caused by a torque is used to measure the torque.

6. The transmission according to one of Claims 1 through 5,

characterized in that a disengagement point, such as a startup clutch and/or a converter (Trilok converter), a friction disk arrangement, a hydraulic clutch, or a synchronization is provided on the output side.

7. The transmission according to one of Claims 1 through 5,

characterized in that a disengagement point, such as a startup clutch and/or a converter (Trilok converter 20), a friction disk arrangement, a hydraulic clutch, or a synchronization (3) is provided on the drive side.

8. The transmission according to one of Claims 1 through 7,

characterized in that two partial transmissions (1, 2; 101, 102) are each brought together and/or engage with their output (26, 126; 29; 129) at a drive (27; 127) of the following transmission path (15, 115).

9. The transmission according to Claim 8,

characterized in that the drive (127) of the following transmission path is the main differential (115) of a motor vehicle.

10. The transmission according to Claims 8 or 9,

characterized in that each of the two partial transmissions (1, 2; 101, 102) may be engaged and/or disengaged.

11. The transmission according to one of Claims 1 through 10,

characterized in that a continuously variable partial transmission is positioned between two power dividers (41, 42), such as a differential gear part or a planetary gear part, at least one input of the continuously variable partial transmission being mechanically connected to at least one output of an input-side power divider and at least one output of the continuously variable partial transmission being mechanically connected to at least one input of an output-side power divider.

12. The transmission according to one of Claims 1 through 11,

characterized in that at least one forward gear and at least one reverse gear are implemented by a differential gear part (23), at least one assembly of the differential gear part able to be fixed alternately with the housing and/or with another assembly of the differential gear part.

13. The transmission according to one of Claims 1 through 12,

characterized by at least two transmission stages (1, 2), which may be switched alternately into the transmission path via a switching gear part (3).

14. The transmission according to Claim 13,

characterized in that the outputs of the two transmission stages are coupled in such a way that before the switching procedure from one to the other of the two transmission stages the speed of the second

transmission stage may be adapted by the continuously variable transmission to the speed of the first transmission stage.

15. The transmission according to Claim 13 or 14,

characterized in that the second transmission stage comprises a differential gear element (23).

16. The transmission according to one of Claims 13 through 15,

characterized by a third transmission stage which may be engaged via a second switching gear part and/or via a freewheel.

17. The transmission according to one of Claims 13 through 16,

characterized in that the switching gear part (3) couples the continuously variable partial transmission (1) to a pump wheel (21) of a Trilok converter (20) and the second transmission stage (2) is coupled to a turbine wheel (22) of the Trilok converter (20).

18. A transmission having a continuously variable partial transmission according to one of Claims 1 through 17,

characterized by a coaxially positioned drive (53) and output (50).

19. The transmission according to Claim 18,

characterized in that a differential gear part (59), which is driven by an output (56) of the continuous transmission, is provided in the coaxial output (50).

20. The transmission according to one of Claims 1 through 19,

characterized by an electric motor drive for a continuously variable partial transmission.

21. The transmission according to one of Claims 1 through 20,

characterized in that a gap, preferably only filled with a liquid, is provided between at least one of the revolving transmission elements and the coupling element during operation.

22. The transmission according to one of Claims 1 through 21,

characterized in that at least one of the revolving transmission elements and/or the coupling element is wetted with a liquid which comprises methyl siloxanes, dimethyl diphenyl siloxanes, and/or methyl phenyl siloxanes having phenyl groups.

23. The transmission according to one of Claims 1 through 22,

characterized in that at least one of the revolving transmission elements and/or the coupling element is wetted with a liquid which comprises polydimethyl siloxanes, polydimethyl diphenyl siloxanes, and/or polymethyl phenyl siloxanes having phenyl groups, and/or which are alkyl-substituted γ-trifluoropropyl-substituted.

24. The transmission according to one of Claims 1 through 23,

characterized in that the liquid has components with organic substituents.

25. The transmission according to one of Claims 1 through 24,

characterized in that at least one of the revolving transmission elements and/or the coupling element is wetted with a liquid whose viscosity is stabilized in regard to temperature.

26. The transmission according to anyone of Claims 1 through 25,

characterized in that at least one of the revolving transmission elements and/or the coupling element is wetted with a liquid whose viscosity changes with a temperature-dependent viscosity gradient, which lies between the viscosity gradient (80) of mineral oils and the viscosity gradients (81) of dimethyl siloxanes.

27. The transmission according to one of Claims 1 through 26,

characterized in that at least one of the revolving transmission elements and/or the coupling element is wetted with a liquid whose compressibility changes with a temperature-dependent compressibility gradient, which lies between the compressibility gradient of mineral oils and the compressibility gradients of dimethyl siloxanes.

28. The transmission according to one of Claims 1 through 27,

characterized in that the running paths of at least one revolving transmission element have different surfaces.

29. The transmission according to Claim 28,

characterized in that grooves or projections of different widths and/or a varying surface texture and/or surface treatment are provided axially along at least one of the revolving transmission elements.

30. The transmission according to one of Claims 1 through 29,

characterized in that the coupling element has at least one running surface having a textured surface, particularly at least one running surface having grooves.

31. The transmission according to one of Claims 1 through 30,

characterized in that the coupling element, particularly in combination with a liquid which wets the running surfaces of the coupling element and/or the corresponding running surface of the corresponding transmission element and/or in combination with a single-sided holder of the coupling element, has at least one running surface having a cross-section deviating from a straight line, preferably having a concave and/or crowned cross-section.

32. The transmission according to one of Claims 1 through 31, the revolving coupling element having an inlet and an outlet region, which are positioned around the circumference in front of and behind, respectively, a

contact region, in which the coupling element is a contact with at least one transmission element,

characterized in that the revolving coupling element is only in contact with a holding device (481) in the inlet region.

33. The transmission according to Claim 32,

characterized in that a rotational degree of freedom around an axis perpendicular to a rotational plane of the axis of revolution of the coupling element remains between an actuator (484) for the holding device (481) and the coupling element (480).

34. The transmission according to Claim 33,

characterized in that the holding device holds the coupling element essentially without play and the rotational degree of freedom also exists between the holding device and actuator.

35. The transmission according to Claim 33,

characterized in that the holding device (481) holds the coupling element (480) with enough play for the rotational degree of freedom.

36. The transmission according to Claim 33,

characterized in that the holding device (481) includes a rest (485), which points toward the coupling element (480) and is active in a direction aligned perpendicular to the plane of revolution of the coupling element.

37. The transmission according to one of Claims 1 through 34,

characterized by an actuator (463; 484) and/or a holding device (462; 481) which are implemented without play through pre-tension.

38. The transmission according to one of Claims 1 through 37,

characterized by a stationary holding device for the coupling element, through which the coupling element may be held alternately in a defined running path.

39. The transmission according to one of Claims 1 to 38,

characterized by detection of the end positions of the coupling element through a sensor, particularly electrically.

40. The transmission according to one of Claims 1 through 39, the revolving coupling element having an inlet and an outlet region which are positioned around the circumference in front of and behind a contact region, in which the coupling element is in contact with at least one transmission element,

characterized in that end stops (466) are provided in the inlet region, against which the coupling element may run in the event of a running path change and which are positioned in such a way that they bring the axis of revolution of the coupling element into a stationary position when the coupling element runs against one of the end stops.

41. The transmission according to one of the preceding claims having two revolving transmission elements,

each of which has at least one running surface (50, 51) for a revolving coupling element, at least one of the running surfaces having at least two running paths for the coupling element having different running radii and actuating means being provided, via which the coupling element may be adjusted from one of the two running paths to the other of the two running paths and which comprises an activatable actuator (415, 416; 455),

characterized in that the actuating means comprise a safety device which adjusts the coupling element into a safety running path if the activatable actuator breaks down.

42. The transmission according to one of the preceding claims having two revolving transmission elements, each of which has at least one running surface (50, 51) for a revolving coupling element, at least one of the running surfaces having at least two running paths for the coupling element having different running radii and actuating means being provided, via which the coupling element may be adjusted from one of the two running paths to the other of the two running paths and which comprises an activatable actuator (415, 416; 455),

characterized in that the safety device adjusts the coupling element into the safety running path at a defined speed.

43. The transmission according to one of the preceding claims having two revolving transmission elements, each of which has at least one running surface (50, 51) for a revolving coupling element, at least one of the running surfaces having at least two running paths for the coupling element having different running

radii and actuating means being provided, via which the coupling element may be adjusted from one of the two running paths to the other of the two running paths and which comprises an activatable actuator (415, 416; 455),

characterized in that the safety device comprises pre-tensioning of at least one further assembly of the actuating means.

44. The transmission according to one of Claims 41 through 43,

characterized in that the safety device comprises at least one spring.

45. The transmission according to one of Claims 41 through 44,

characterized in that the safety device has a stop to fix the safety running path.

46. The transmission according to Claim 45,

characterized in that the stop has a spring.

47. The transmission according to one of Claims 41 through 46,

characterized in that the safety device has an additional actuator.

48. The transmission according to one of Claims 1 through 47 having a continuously variable partial transmission,

characterized by two transmission paths connected in parallel, the continuously variable partial transmission being provided in a first of the two transmission paths.

49. The transmission according to Claim 48,

characterized in that a reverse gear, a first gear, and/or an overdrive is provided in the second of the two transmission paths.

50. The transmission according to Claim 48 or 49,

characterized in that at least one freewheel is provided between the two transmission paths.

51. The transmission according to one of Claims 1 through 50, in which at least two transmission elements revolving on different axes are braced against one another via a pressure device,

characterized in that a clutch element (134) is provided, through which the two transmission elements (104, 105) may be alternately disconnected from a third transmission element (115, 129) by opening a clutch element (134) or connected to the third transmission element (115, 129) by closing the clutch element (134) and which is closed by the pressure applied by the pressure device (108).

52. The transmission according to Claim 51,

characterized in that the clutch element (134) comprises a cone clutch (156, 157).

53. The transmission according to one of the preceding claims, having a reverse gear (202) provided behind

the output (204) in series with the continuously variable transmission (201).

54. The transmission according to Claim 53,

characterized in that the reverse gear comprises an epicyclic gear having at least one revolving gear mount (225, 226), which mounts at least one transmission element (215, 216) of the epicyclic gear and may be fixed alternately with a fixed mount (227, 232) and/or a revolving transmission element (209, 217; 212, 218).

55. The transmission according to Claim 53 or 54,

characterized in that the reverse gear (202) comprises a planetary gear (210, 211) having planet wheels (215, 216), sun wheel (209, 212), and external wheel (217, 218), of which a first transmission element (209, 212) is mechanically connected to the output (207) of the conical friction ring transmission (201) and a second transmission element (217, 218) is mechanically connected to the output (220, 223) of the overall arrangement made of transmission (201) and reverse gear (202), while the third transmission element (215, 216) may be fixed in regard to at least one degree of freedom in relation to a mount or housing (227, 232).

56. The transmission according to Claim 55,

characterized in that the third transmission element is the planet wheels.

57. The transmission according to Claim 55 or 56,

characterized in that the first transmission element is driven by a pinion (207) which revolves with the output cone.

58. The transmission according to one of Claims 55 through 57,

characterized in that the second transmission element revolves connected to the revolving mount (219) of a differential (220).

59. The transmission according to one of Claims 55 through 58,

characterized in that two of the transmission elements, preferably the first and second transmission elements, may be fixed with one another.

60. The transmission according to one of Claims 54 through 59,

characterized in that a clutch (229), a slanted brake (227, 228), and/or a synchronization (230) is used for fixing.

61. The transmission according to one of the preceding claims,

characterized in that two continuously variable partial transmissions (306, 307) are provided, which are switched at an input and/or output element (309, 310) via a summation gear (308).

62. The transmission according to Claim 61,

characterized in that the two continuously variable partial transmissions (306, 307) have a shared

transmission element (301) on the side facing away from the summation gear (308).

63. The transmission according to Claim 61 or 62,

characterized in that the two continuously variable partial transmissions (306, 307) each have an input shaft axis (349) and an output shaft axis (348, 350), positioned essentially parallel thereto in a partial transmission plane, the partial transmission planes being positioned in parallel.

64. The transmission according to Claim 63,

characterized in that the two partial transmission planes are identical.

65. The transmission according to one of Claims 61 through 64,

characterized in that the two partial transmissions have a shared input shaft (301, 349) or a shared output shaft (309).

66. The transmission according to one of Claims 61 through 65,

characterized in that a further adjustable partial transmission (321, 339, 340, 341), particularly a switching gear and/or a reverse gear, is provided between at least one of the continuously variable partial transmissions (306, 307) and the summation gear (308).

67. The transmission according to one of Claims 61 through 66,

characterized in that at least one of the continuously variable transmissions (306, 307) may be bypassed (321, 339).

68. The transmission according to one of Claims 61 through 67,

characterized in that the summation gear (308) has at least one fixable transmission element (312, 320).